

REMARKS

Claims 1, 3, 15, and 21 are amended, no claims are canceled, and no claims are added; as a result, claims 1-21 are now pending in this application.

Claims 1, 3, 15, and 21 were amended to overcome claim objections raised in the Office Action. No amendments to claims 1, 3, 15, and 21 were made to overcome a rejection of any of the pending claims in the application based on prior art.

No new matter has been added through the amendments to claims 1, 3, 15, and 21. Claim 1 was amended merely to clarify the language of the claim by adding the phrase "the transformer circuit including" and by deleting the word "and." Claim 3 was amended merely to delete the phrase "and a port other than." Support for claim 3 as now amended may be found for example, but not limited to, the specification on page 3 at lines 25-29, and in FIG. 2 of the present application as originally filed. Claim 15 was amended merely to correct an antecedent basis issue associated with the phrase "filter input signal." Claim 21 was amended to delete the word "converter" and insert the word "controller." Support for the amendments to claim 21 may be found for example, but not limited to, the specification on page 2 at lines 27-28, and in FIG. 1A of the present application as originally filed.

In the Drawings

Formal drawings including FIG. 1A, FIG. 1B, FIG. 2, FIG. 3, FIG. 4, FIG. 5, FIG. 6, FIG. 7, and FIG. 8 on sheets 1-6 are included with this response. As noted above, each of sheets 1-6 includes the label "REPLACEMENT SHEET". No other amendments have been made to the drawings. Applicant respectfully requests that the next official communication indicate that these drawings are accepted.

Claim Objections

Claims 1-6, 8-10, and 15-21 were objected to because of informalities.

Applicant believes that the amendments and arguments presented below overcome the claim objections to claims 1-6, 8-10, and 15-21, and so respectfully requests withdrawal of the claim objections, and reconsideration and allowance of claims 1-6, 8-10, and 15-21.

Claim 1

With respect to claim 1, the Office Action on page 2 states,

In claim 1, the phrase "a transformer circuit including an input port and an autotransformer coupled to the input port" renders the claims indefinite because it reads as if the autotransformer is another element (not being part of the transformer circuit) attached to the transformer circuit.

Claim 1 has been amended to now recite,

a transformer circuit including an input port, the transformer circuit including an autotransformer coupled to the input port, the input port to receive an input signal. (Emphasis added).

Applicant believes that the amendments to claim 1 overcome the stated claim objection regarding this claim, as so respectfully requests that the claim objection to claim 1 be withdrawn.

Claim 3

With respect to claim 3, the Office Action on page 2 states,

In claim 3, the clause "a port other than the input port" is unclear because figures 2 and 3 clearly show diode connected between a coil and the input port 108.

Claim 3 has been amended to now recite,

The converter of claim 2, wherein a diode is connected between one of the three coils the input port.

Applicant believes that the amendments to claim 3 overcome the stated claim objection regarding this claim, as so respectfully requests that the claim objection to claim 3 be withdrawn.

Claim 8

Claim 8 recites,

The converter of claim 7, wherein the input port is connected in series with a switch and the autotransformer, and a diode is connected in parallel with the switch and the autotransformer.

With respect to claim 8, the Office Action on page 2 states,

In claim 8, it is unclear how "the input port is connected in series with a switch and the autotransformer" and "a diode is connected in parallel with the switch and the autotransformer." Drawings appear to show that switches and diode are integral part of the autotransformer. It is difficult to gather which portion represents the autotransformer so that the claimed input port and diode configuration is clearly understood.

Applicant directs attention to the specification of the present application on page 5 at lines 20-28, which states,

Fig. 3 is a schematic diagram of an alternative embodiment of the transformer circuit 102, shown in Fig. 1A, according to some embodiments of the present invention. The transformer circuit 102 includes the input port 108, the output port 110, the control ports 112 and 114, an autotransformer 302, a diode 204, switches 206, 208, and 210, and an input port 212. The autotransformer 302 includes coils 314 and 316. The input port 108 is connected in series with the switch 206, the autotransformer 302, and the switch 208, and the input port 212. The diode 204 is connected in parallel with the switch 206 and the autotransformer 302. The switch 210 is connected between the output port 110 of the autotransformer 302 and the input port 212.
(Emphasis added)

Applicant believes that, while not limited to these, the above quoted portion of the specification and FIG. 3 clearly describe the elements recited in claim 8. Applicant therefore believes that the objection to claim 8 has been overcome, and respectfully requests withdrawal of the claim objection regarding claim 8.

Claim 15

With respect to claim 15, the Office Action on page 2 states,

In claim 15, "the filter" lacks proper antecedent basis.

Claim 15 has been amended to now recite,

activating a third switch to connect a filter input signal to the second input signal.

Applicant believes that the amendments to claim 15 overcome the stated claim objection regarding this claim, as so respectfully requests that the claim objection to claim 15 be withdrawn.

Claim 21

With respect to claim 21, the Office Action on page 2 states,

In claim 21, it is unclear which converter is being implied by "connecting a converter to the output signal."

Claim 21 has been amended to now recite,

The method of claim 15, further comprising connecting the filter input signal to a filter having an output signal and connecting a controller to the output signal.

Applicant believes that the amendments to claim 21 overcome the stated claim objection regarding this claim, as so respectfully requests that the claim objection to claim 21 be withdrawn.

§102 Rejection of the Claims

Claims 1-11 and 15-21 were rejected under 35 U.S.C. § 102(b) as being anticipated by Glennon (U.S. 5,008,801). Applicant traverses the rejection of claims 1-11 and 15-21.

Glennon fails to anticipate claims 1-11 and 15-21 because Glennon fails to disclose in a single prior art reference each of the elements included in claims 1-11 and 15-21.

Glennon fails to disclose each of the elements included in claim 1. For example, claim 1 recites,

a controller coupled to the transformer circuit and the filter, the controller to receive the output signal from the filter and to provide one or more control signals to the transformer circuit to control the output signal. (Emphasis added).

In contrast, Glennon states,¹

During operation in either the generating or starting modes, AC power provided via the contactors 51a-51c is rectified by the rectifier 26 comprising diodes D1-D6 connected in a bridge configuration. The resulting DC power is filtered by a capacitive filter (not shown) coupled to the DC link 30. The switches S1-S12 of the inverter 32 are operated by the control unit 60 in response to sensed parameters of the system 10 so that AC power is produced at the switch junctions 76a-76c and 78a-78c. (Emphasis added).

Thus, Glennon discloses using a control unit 60 to operate switches S1-S12 in an inverter 32 in response to sensed parameters in the system 10. However, there is no disclosure in Glennon of the controller receiving the output signal from the filter to provide one or more control signals to the transformer circuit to control the output signal. A mere recitation of "sensed parameters" in Glennon does not disclose a controller to receive the output signal from the filter, as recited in claim 1.

Thus, Glennon fails to disclose all of the elements included in claim 1. Claims 2-11 depend from claim 1, as so include all of the elements recited in claim 1. Thus, Glennon fails to disclosure all of the elements included in claims 2-11.

In another example where Glennon fails to disclose each of the elements included in the rejected claims, claim 15 recites, "activating a first switch to serially connect the first coil to the second coil."

In contrast Glennon states,²

Referring now to FIG. 3, the inverter 32 includes three inverter legs 70a, 70b and 70c which are coupled across DC rails 30a and 30b of the DC link 30. Each inverter leg 70a, 70b and 70c includes two associated switch networks 72a and 74a, 72b and 74b and 72c and 74c, respectively. The switch networks of each leg are coupled in parallel with one another across the DC rails 30a, 30b. The switch networks are formed by switches S1-S12 arranged in series-connected pairs. Thus, for example, the switch network 72a comprises power switches S1 and S2 connected in series across the rails 30a and 30b. The switches of each pair are coupled together at a switch junction 76a-76c and 78a-78c.

¹ See Glennon at column 5, lines 3-12.

² See Glennon at column 4, lines 45-57.

Thus, Glennon discloses switches coupled across DC rails 30a and 30b, arranged in series-connected pairs. However, there is no disclosure in Glennon of any of these switches being activated to serially connect a first coil to a second coil. Therefore, there is no disclosure in Glennon of activating a first switch to serially connect a first coil to the second coil, as recited in claim 15.

Further, claim 15 also recites, "activating a third switch to connect a filter input signal to the second input signal." Applicant's representatives cannot find, and the Office Action fails to point out, where in Glennon there is a disclosure of activating a third switch to connect a filter input signal to the second input signal, as recited in claim 15.

Thus, Glennon fails to disclose all of the elements recited in claim 15. Claims 16-21 depend from claim 15, as so include all of the elements recited in claim 15. Thus, Glennon fails to disclose all of the elements included in claims 16-21.

Because Glennon fails to disclose each of the elements included in claim 1-11 and 15-21, the 35 U.S.C. § 102(b) rejection of claims 1-11 and 15-21 cannot stand. For at least the reasons stated above, Applicant respectfully requests withdrawal of the 35 U.S.C. § 102(b) rejection, and reconsideration and allowance of claims 1-11 and 15-21.

§103 Rejection of the Claims

Claim 12

Claim 12 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Glennon (U.S. 5,008,801). Applicant respectfully traverses the rejection of claim 12.

Glennon fails to teach or suggest all of the elements included in claim 12.

Claim 12 depends from claim 1, and therefore includes all of the elements recited in claim 1. For at least the reasons stated above, Glennon fails to teach or suggest all of the elements included in claim 1, and therefore fails to teach or suggest all of the elements included in claim 12.

Further, the Office Action on page 5 admits that Glennon does not disclose an input signal value of forty-eighty volts and the output signal value of about six-tenths of a volt.

Applicant agrees. The Office Action on pages 5-6 goes on to state,

It would have been obvious to one having ordinary skill in the art at the time the invention was made to set input signal value at forty-eight volts and the output signal voltage at about six-tenths of a volt, since it has been held that where general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in art. In re Aller, 105 USPQ 233.

While Applicant does not admit that the elements recited in claim 12 are "general conditions of a claim," the Office Action fails to point out in Glennon where these "general conditions of a claim" regarding the elements recited in claim 12 are found. Further, since the Office Action fails to cite another reference in forming the 35 U.S.C. § 103(a) rejection of claim 12, the Office Action fails to point out any prior art that discloses any of the voltages as recited in claim 12. Thus, the Office Action fails to cite any reference that teaches or suggests the elements recited in claim 12, even as "general conditions of a claim."

Because the Office Action fails to cite another reference or additional references that teach or suggest the claim elements of claim 12 that are missing from Glennon, Applicant respectfully requests that the Examiner provide additional references supporting the rejections or an affidavit describing how the missing elements are present in the prior art. If the Examiner cannot cite a reference or provide an affidavit, Applicant respectfully requests withdrawal of the rejection and reconsideration and allowance of claim 12.

Claims 13-14

Claims 13-14 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Glennon (U.S. 5,008,801) in view of Cross (U.S. 5,796,595).

In the Office Action on page 6, the statement of the above paraphrased rejection included the phrase "in view of Cross (5,795,595)." However, U.S. Patent Number 5,795,595 is a patent titled "Spinning Pack with Sand Filter," to inventors Becck et al. Applicant believes the Office Action intended to base this rejection on U.S. Patent Number 5,796,595 titled "Interleaved

Continuous Flyback Power Converter System" to inventor Cross. Applicant's representative Robert Madden believes he has confirmed this assumption through a telephone call to Examiner Han. Therefore, Applicant has proceeded under the assumption that this rejection is based on the proposed combination of Glennon (U.S. 5,008,801) in view of Cross (U.S. 5,796,595).

In the event that this assumption is incorrect, Applicant respectfully requests correction of the statement of the rejection, and reserves the right to respond to any corrected statements of the rejection.

The proposed combination of Glennon and Cross fails to teach or suggest all of the elements included in claims 13-14.

Claims 13-14 depend from claim 1, and therefore include all of the elements recited in claim 1. For at least the reasons stated above, Glennon fails to teach or suggest all of the elements recited in claim 1, and therefore fails to teach or suggest all of the elements included in claims 13-14. Applicant's representatives fails to find, and the Office Action does not rely on or point out, where Cross teaches or suggests the elements missing from Glennon and included in claims 13-14. Thus, the proposed combination of Glennon and Cross fails to teach or suggest each of the elements included in claims 13-14.

Because the proposed combination of Glennon and Cross fails to teach or suggest each of the elements included in claims 13-14, the 35 U.S.C. § 103(a) rejection of claims 13-14 cannot stand. For at least the reasons stated above, Applicant respectfully requests withdrawal of the 35 U.S.C. § 103(a) rejection, and reconsideration and allowance of claims 13-14.

Reservation of Rights

Applicant does not admit that references cited under 35 U.S.C. §§ 102(a), 102(e), 103/102(a), or 103/102(e) are prior art, and reserves the right to swear behind them at a later date. Arguments presented to distinguish such references should not be construed as admissions that the references are prior art.

Conclusion

Applicant respectfully submits that the claims are in condition for allowance and notification to that effect is earnestly requested. The Examiner is invited to telephone Applicant's attorney ((612) 371-2132) to facilitate prosecution of this application.

If necessary, please charge any additional fees or credit overpayment to Deposit Account No. 19-0743.

Respectfully submitted,

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CERTIFICATE UNDER 37 CFR 1.8: The undersigned hereby certifies that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail, in an envelope addressed to: MS Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on this 6th day of February, 2006.

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IN THE DRAWINGS

Formal drawings are supplied herewith on sheets 1-6, each sheet being labeled as "REPLACEMENT SHEET".